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## Environmental Restoration Project Quality Procedure

for:

# Inspection and Testing

## Los Alamos

NATIONAL LABORATORY

Los Alamos, New Mexico 87545

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# Inspection and Testing

## Table of Contents

|                                |   |
|--------------------------------|---|
| 1.0 PURPOSE .....              | 4 |
| 2.0 SCOPE .....                | 5 |
| 3.0 REFERENCES .....           | 4 |
| 4.0 DEFINITIONS .....          | 5 |
| 5.0 RESPONSIBLE PERSONNEL..... | 6 |
| 6.0 PROCEDURE .....            | 6 |
| 7.0 RECORDS.....               | 8 |
| 8.0 TRAINING.....              | 8 |
| 9.0 ATTACHMENTS.....           | 8 |

# Inspection and Testing

## 1.0 PURPOSE

This Quality Procedure (QP) states the responsibilities and describes the process for establishing independent inspection and testing requirements to ensure that specifications and design criteria for purchased material and items have been met and that the necessary objective evidence of these independent inspections and/or test results are completed on the Environmental Restoration (ER) Project.

## 2.0 SCOPE

This QP is a mandatory document and shall be implemented by all ER Project participants when performing, documenting and reporting inspections and testing of equipment and systems (e.g., placement of concrete, welding processes, soil compaction, placement of well material, operational test of equipment placed in constructed wells etc.) for the ER Project.

**Note:** Subcontractors shall follow this QP for addressing inspection and testing processes or shall use their own procedure(s) as long as the substitute meets the requirements prescribed by the ER Project Quality Management Plan, and is approved by the ER Project's Quality Program Project Leader (QPPL) before the commencement of the designated activities.

## 3.0 REFERENCES

ER Project personnel using this procedure should become familiar with the contents of the following documents to properly implement this QP.

- ER Project Quality Management Plan, located at [http://erinternal.lanl.gov/home\\_links/Library\\_proc.htm](http://erinternal.lanl.gov/home_links/Library_proc.htm).
- QP-2.2, Personnel Orientation and Training
- QP-3.2, Lessons Learned
- QP-3.4, Managing Nonconformances, Deficiencies and Corrective Actions
- QP-4.4, Record Transmittal to the Records Processing Facility
- QP-4.10, Document Development and Transmittal Process: Peer Review Not Required

## 4.0 DEFINITIONS

- 4.1 Acceptance Criteria — Specified limits placed on characteristics of an item, process, or service that is defined in design documents, codes, standards, or other requirement documents for the purpose of determining acceptability.
- 4.2 Hold Point — A mandatory inspection point, identified by the responsible Design Agent in design documents, beyond which work specific to certain activity shall not proceed until such time that the responsible Design Agent conducts an inspection and documents acceptable inspection results. A Hold Point Inspection may involve Quality Integration and Improvement, health and safety personnel, and/or other ER Project personnel. A hold point can only be waived by the responsible University of California Representative (UTR).
- 4.3 Inspection. — An examination, observation, or measurement to determine the conformance of an item, process, or activity to predetermined requirements.
- 4.4 Inspector. — An individual (e.g., subcontractor and/or ER Project personnel) trained and qualified in accordance with established requirements to carry out the independent inspections and tests necessary to ensure the quality of work, document results, and report discrepant conditions.
- 4.5 Nonconformance. — A deficiency in characteristic, documentation, or procedure that renders the quality of an item, process, or activity unacceptable or indeterminate.
- 4.6 Quality Assurance. — Quality assurance comprises all plans and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.
- 4.7 Quality Control. — Quality control comprises those quality assurance actions related to the physical characteristics of a material, structure, component, or system, which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.
- 4.8 Supervisor — An individual assigned to the ER Project who is a group, focus, task, or project leader or a manager with the authority and responsibility to direct and authorize ER Project activities. A supervisor may also be an individual directed by the ER Program Manager or Focus Area Leader to act in her or his behalf.
- 4.9 Testing — An element of verification used to assess the capability of an item to conform to specified requirements by subjecting the item to the physical, chemical, environmental, and/or operating condition parameters of intended performance.

- 4.10 Verification. — The act of reviewing, inspecting, testing, checking, auditing, or otherwise determining and documenting whether items, processes, services, or documents conform to specified requirements.
- 4.11 Witness Point. — An inspection point, identified in design documents, where it is mandatory to formally notify the appropriate ER Project personnel when a certain stage in the work activity is reached or about to be reached. At that time, the ER Project may elect to conduct and document the inspection.

## 5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in Section 6.0 of this procedure.

- 5.1 Supervisor
- 5.2 Quality Program Project Leader
- 5.3 University of California Technical Representative
- 5.4 Inspector
- 5.5 ER Project Personnel

## 6.0 PROCEDURE

**Note:** ER Project personnel may produce paper copies of this procedure printed from the controlled-document electronic file located at <http://erinternal.lanl.gov/documents/Procedures/qps.htm>. However, it is their responsibility to ensure that they are trained to and utilizing the current version of this procedure. The author may be contacted if text is unclear. The Document Control Coordinator may be contacted if the author cannot be located.

- 6.1 Preparation for Inspection
  - 6.1.1 **Inspectors** shall obtain the necessary information such as inspection/test requirements, accept/reject criteria, etc., from the latest procedures and process control documentation.
  - 6.1.2 Inspectors shall obtain the appropriate Measurement and Test Equipment (M&TE) necessary to perform the any required measurements and/or tests.
  - 6.1.3 **Inspectors** shall prepare for their inspections and tests by taking the following actions:
    - Familiarize themselves with the requirements of the inspections/tests by reviewing the latest approved procedures, codes, standards, specifications, and drawings.

- Ensure that all necessary information, test plans, procedures forms (see Attachments A and B), etc., required to perform specified inspections and tests are available.
- Verify that M&TE being used for inspections and tests have identifying numbers and valid calibration stickers.
- Obtain the appropriate training for the M&TE to be used.

## 6.2 Perform Inspections and Tests

**Inspectors** shall perform a thorough inspection and/or test in accordance with applicable inspection plans, test plans, procedures, and specifications.

## 6.3 Inspection Hold and Witness Points

- 6.3.1 When inspection hold points are specified, work specific to a certain activity must not be allowed to proceed without the specific consent of the responsible UTR.
- 6.3.2 When a witness point is specified, it is mandatory that the responsible UTR be formally notified. When this certain stage of a work activity has been reached (or is about to be reached).

## 6.4 Documenting Inspections and Tests

- 6.4.1 Inspection and test results shall be documented in accordance with the instructions of specific procedures. The Inspection Report and/or the Receiving Inspection Report (see Attachments A and B) shall be used for this purpose
- 6.4.2 Prior to developing inspection and/or test reports and associated documentation, the **inspector** shall obtain an ER Document Catalog Number, in accordance with QP-4.10, Document Development and Transmittal Process: Peer Review not Required, by initiating a Document Signature Form, located at <http://erinternal.lanl.gov/DocCatalog/>. The ER Document Catalog Number shall be used to track all appropriate inspection and test result reporting documentation.
- 6.4.3 The Inspector shall included in the Inspection Report the following information:
- document catalog number
  - item inspected/tested;
  - type of inspection or test, work package number or task;
  - location/area, inspection/test criteria;
  - inspection/test results;
  - Inspector's signature and level;

- date, and;
- accepted/rejected criteria.

6.4.4 Any inspection/test report showing an item or activity as rejected requires an acceptable reinspection/retest. The rejected inspection and/or test may require the reporting of a Nonconformance Report in accordance with QP-3.4.

## 6.5 Perform Lessons Learned

6.5.1 During the performance of work, **ER Project personnel** shall identify, document and submit lessons learned, as appropriate in accordance with QP-3.2, Lessons Learned, located at: [http://erinternal.lanl.gov/home\\_links/Library\\_proc.htm](http://erinternal.lanl.gov/home_links/Library_proc.htm).

## 7.0 RECORDS

The **Inspector** is responsible for submitting the following records (processed in accordance with QP-4.4, Record Transmittal to the Records Processing Facility) to the Records Processing Facility.

- 7.1 Inspection Reports
- 7.2 Test Reports
- 7.3 Document Signature Form
- 7.4 Associated correspondence

## 8.0 TRAINING

- 8.1 ER Project personnel using this QP are trained by reading the procedure. **ER Project personnel** shall ensure the training is documented in accordance with QP-2.2, Personnel Orientation and Training, and is entered in the ER Project Training Database located [at http://erinternal.lanl.gov/Training/Training.asp](http://erinternal.lanl.gov/Training/Training.asp).
- 8.2 The **supervisor** shall monitor the proper implementation of this procedure and ensure that relevant team members have completed all applicable training assignments in accordance with QP-2.2, Personnel Orientation and Training.

## 9.0 ATTACHMENTS

Attachment A: Inspection Report form (1 page), located at [http://erinternal.lanl.gov/home\\_links/Library\\_proc.htm](http://erinternal.lanl.gov/home_links/Library_proc.htm).

Attachment B: Receiving Inspection Report form (1 page), located at [http://erinternal.lanl.gov/home\\_links/Library\\_proc.htm](http://erinternal.lanl.gov/home_links/Library_proc.htm).



| <b>INSPECTION REPORT</b><br>Document Catalog Number:  |   |
|---|---|
| <b>Type of Inspection:</b><br><input type="checkbox"/> Surveillance <input type="checkbox"/> In Progress Work <input type="checkbox"/> Title III <input type="checkbox"/> Test <input type="checkbox"/> Material Receipt<br><input type="checkbox"/> Other:   |   |
| Work Package No.:   | Subcontractor:                                  |
| Location/Area:  | Date of Inspection:                             |
| Nonconformance Report No.:  |   |
| Items Inspected:  |   |
| Inspection Criteria:  |   |
| M&TE used:  |   |
| Inspection performed: (narrative that would include a concise step-by-step description of the inspection):  |   |
| Inspection Results: <input type="checkbox"/> Accept <input type="checkbox"/> Reject <input type="checkbox"/> N/A<br>Inspected by: _____<br><div style="display: flex; justify-content: space-between; width: 80%; margin-left: 10%;"> <span>print name, then sign</span> <span>(Date)</span> </div> |   |
| Reinspection Results: <input type="checkbox"/> Accept <input type="checkbox"/> Reject<br>Inspected by: _____<br><div style="display: flex; justify-content: space-between; width: 80%; margin-left: 10%;"> <span>print name, then sign</span> <span>(Date)</span> </div>                            |   |
| QPPL Review: <input type="checkbox"/> Accept <input type="checkbox"/> Reject<br>Inspected by: _____<br><div style="display: flex; justify-content: space-between; width: 80%; margin-left: 10%;"> <span>print name, then sign</span> <span>(Date)</span> </div>                                     |   |
| QP-8.1  | Los Alamos<br>Environmental Restoration Project |

# RECEIVING INSPECTION REPORT

Document Catalog Number: \_\_\_\_\_

Purchase Requisition No: \_\_\_\_\_  
Date Received: \_\_\_\_\_

Date Ordered: \_\_\_\_\_  
Ordered By: \_\_\_\_\_

**Note:** Receiving inspection performed by the purchase requisition requester shall be documented using the checklist criteria to the extent it is applicable to the item or material purchased. Results shall be evidenced by a check mark (✓) in the appropriate "Accept/Reject/Yes/No Box". Criteria not applicable shall be indicated by "N/A" in the "Accept/N/A Box".

| Receipt Inspection Checklist Criteria  | Accept | Reject |
|--|--------|--------|
| 1. Verify item/material received is the same as the purchase documents.              |        |        |
| 2. Visually inspect received condition for shipping damage.                          |        |        |
| 3. Verify quantity, dimensions, identification, and markings are correct.            |        |        |
| 4. Review quality assurance requirements and verify quality clause conformance for:  |        |        |
| • Supplier documentation is complete/legible/meets purchase requisition requirements |        |        |
| • Certifications required by the purchase requisition are correct/complete/authentic |        |        |
| • Inspection and test records conform to manufacturers published data;               |        |        |
| • Certificates of Calibration have traceability to NIST;                             |        |        |
| • Item/Component Marking/Serialization is traceable to test data;                    |        |        |
| • Limited Shelf Life Material is marked with applicable expiration date;             |        |        |
| • Manufacturing nonconformances have been reported and corrected;                    |        |        |
| • Inclusion of Certified Material Test Reports (if required);                        |        |        |
| • Inspect for evidence of suspect or defective materials or components               |        |        |
| 5. Manufacturers Certificate of Conformance (if applicable) as a minimum:            |        |        |
| • materials or equipment traceability to purchase requisition requirements;          |        |        |
| • codes/standards/specifications that are applicable to the purchase requisition;    |        |        |
| • these requirements that may not have been stated;                                  |        |        |
| • certification signed on official letterhead of the supplier organization.          |        |        |
| 6. Verify (if applicable) (if not, then only) met the minimum requirements           |        |        |
| 7. Analytical Sample documentation identifies a minimum:                             |        |        |
| • analytical samples requested are present,  |        |        |
| • analytical samples requested are present,  |        |        |
| • appropriate QA Forms are present,  |        |        |

Remarks: \_\_\_\_\_

Placed in Storage ☐ Yes ☐ No ☐ N/A

Location: \_\_\_\_\_

## Verification of Inspection:

I have verified that this receipt inspection has been properly conducted and the items and/or material meets with requirements as identified in the appropriate purchase requisition.

Received by: \_\_\_\_\_ Quality Liaison \_\_\_\_\_  
print name, then sign (Date) print name, then sign (Date)

QP-8.1

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Environmental Restoration Project